




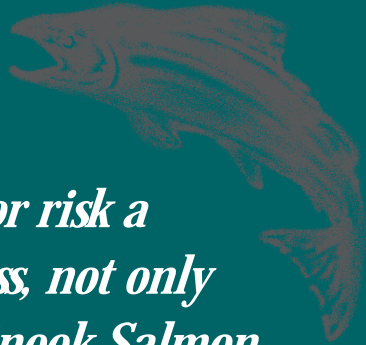
# Regional Water Conservation Accomplishments 1990-1998

Seattle  
 Public  
Utilities  
and  
Purveyor  
Partners

P R E S E R V I N G   O U R   W A T E R S   1 9 9 0 - 1 9 9 8

*“ We need to create livable communities respectful of our natural resources or risk a terrible loss, not only of the Chinook Salmon but of many other species living in and around Puget Sound. ”*

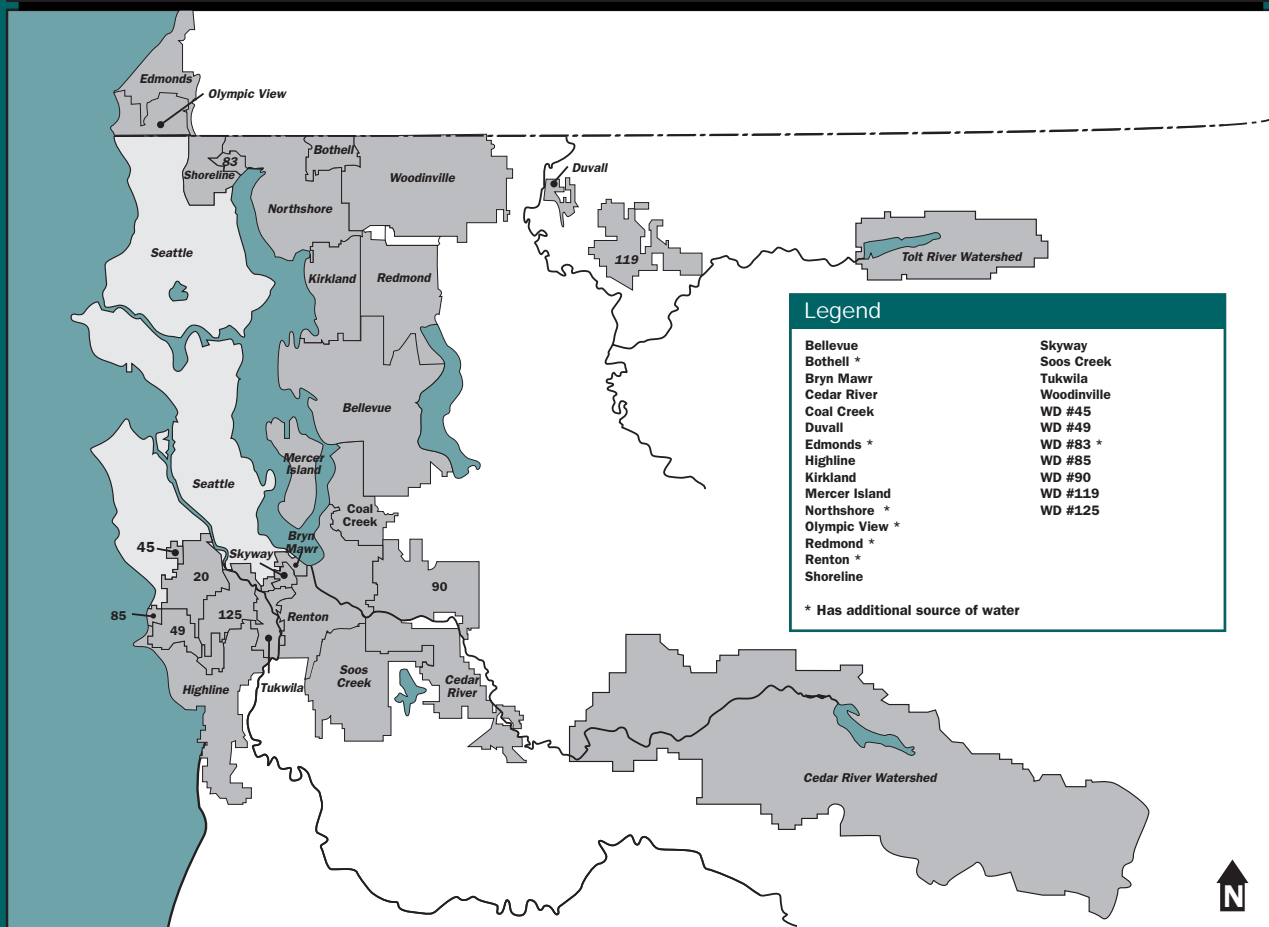
– Seattle Mayor Paul Schell



*“ Purveyors are seriously committed to working regionally to promote wise resource management including conservation, both from an economic and environmental standpoint. ”*

Ron Sheadel, Chair of Seattle Water  
Purveyor Committee

## Jurisdictions buying water from Seattle



# r R e g i o n

**Seattle Public Utilities (SPU) along with 27 suburban cities and water districts (water purveyors) provide water to about 1.3 million people in the Seattle/King County area. About half of these residents receive their water directly from Seattle while the purveyors serve the other half, which includes areas in north, east and south King County and a small part of southwest Snohomish County.**

**Our region has a rich heritage. We pride ourselves on our commitment to protecting our natural resources and our dedication to environmental stewardship. To honor this commitment and to ensure a reliable water resource for our regional service area, Seattle Public Utilities and Purveyor Partners have aggressively implemented many highly successful water conservation efforts.**

**Current water demand in Seattle's regional service area is estimated to be 30 million gallons per day less than it would have been without conservation. In fact, about 50 billion gallons of water have been saved since 1990. Regional water consumption in 1997 is the same as in 1980, despite a 20% growth in population of the customers in the service area. By working together, water conservation efforts make a difference.**

**This report focuses on our region's success story through the water conservation efforts of Seattle Public Utilities, its Purveyor Partners and their combined customers—the true reason for our success.**

*Water  
consumption  
per capita  
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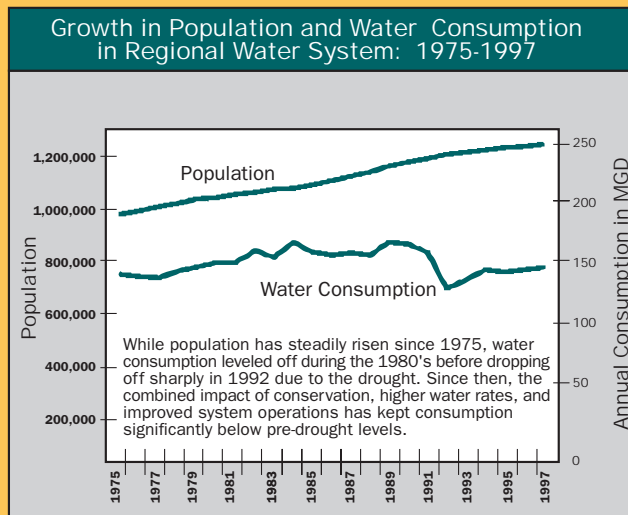


O u r

Since 1989, annual average consumption has dropped 12% from 171 million gallons per day (mgd) to 150 mgd of water. This represents about 50 *billion* gallons of water...that's 1,000 bathtubs full for each person in the greater King County area. Surveys show 92% of customers believe conserving water will help solve future supply problems...and they're right!

Considering that population was growing over the same period, the percent reduction in water use *per person* has been even greater. By encouraging sustainable improvements in resource efficiency without negative impacts on lifestyles or the economy, water consumption *per capita* has fallen by 20% since 1989!

Current water demand in Seattle's regional service area is estimated to be 30 million gallons per day less than it *would have been without conservation*, and is comfortably within existing water supplies. In fact, population served in the regional service area has grown by more than 20 percent since 1980 — yet regional water consumption in 1997 is the same as in 1980, thanks to wise water use by customers. Also, conservation programs and plumbing codes already in place are expected to save an additional 10 million gallons per day by 2010. As you can see, water conservation efforts make a difference!

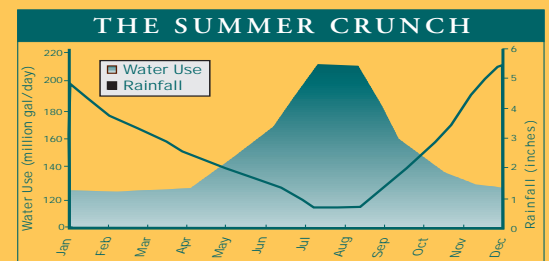


## Why Conservation?

Many of our water conservation programs are inspired by the challenges we experience as a region due to our seasonal weather patterns. Water use peaks mid-May through mid-September primarily because of increases in outdoor water use. This includes water used for lawn and garden irrigation, recreation, car washing and commercial cooling. This increase in demand comes at the point of the year when our rainfall is lowest and river flows critical to fish survival are also at their lowest. Therefore, reducing demand for water during the summer months is essential for a strong conservation impact. Water we conserve during the summer stretches the available water supply through the fall, when the reservoirs can be refilled by rain and snowfall.

In 1989, the State Department of Health began requiring all water systems to include conservation in their comprehensive plans. In addition, water systems experiencing growth in demand are now mandated by the State Department of Ecology to implement conservation programs before seeking new water rights. A primary objective of water conservation efforts is to delay the need for a new source by improving the efficiency of water use. For water systems like Seattle's that would otherwise have needed a new source of water because of growth, conservation is a viable and cost-effective resource.

Conservation is one of the most cost-effective forms of resource management—which means it costs less to conserve than to build a new supply source. Therefore, in addition to saving valuable resources, conservation saves money.



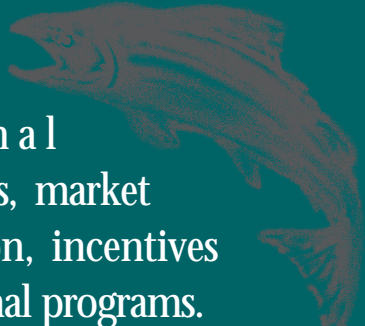
This chart shows that water availability and water use are mirror images. Water use is highest when water availability is lowest, creating a summer water supply "crunch."

# S u c c e s s



# O u r

The Long Range Regional Water Conservation Plan developed by Seattle Public Utilities and its water Purveyor Partners in 1996 is based on an integrated strategy to reduce demand: rate structures, codes and regulations, operational improvements, market transformation, incentives and educational programs.



- Rate Structures: Seattle Public Utilities charges a summer water rate that reflects the additional cost of seasonal water service with an inclined block rate structure in peak season for the residential class. Most purveyors have seasonal or inclining block rate structures. With inclining block rates, water rates increase as consumption increases. These types of rate structures are a key element to encourage conservation.

Increased summer water rates have stimulated savings of 5 million gallons per day since 1990.

# Strategy

- **Codes and Regulations:** The adoption and enforcement of water-conserving plumbing fixture codes and regulations contribute to significant long term savings.

More efficient plumbing fixtures required by the new plumbing code save more than 4 million gallons per day.

- **Operational Improvements:** Improving the efficiency of the water distribution system by reducing leaks and other water system losses are important components of the regional conservation strategy.

Improvements in system efficiency have saved the region 13 million gallons per day since 1990. Plus, 8 million gallons per day have been saved since 1990 through conservation programs.

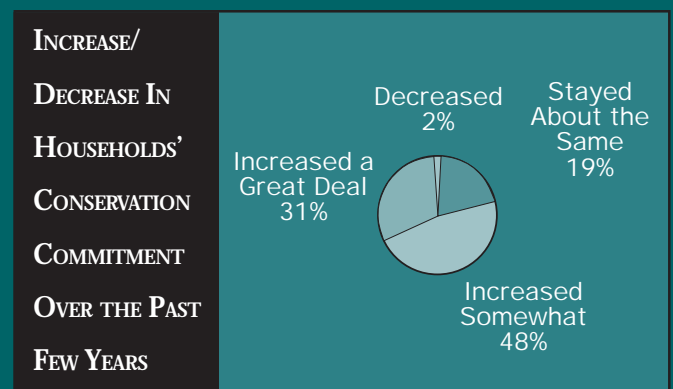
- **Market transformation:** Activities that encourage and support the development, production and sales of products and appliances that conserve water, move customers, as well as manufacturers and suppliers, toward more efficient technologies.

- **Incentives:** Customer rebates and financial incentives are designed to be cost-effective to encourage customers to

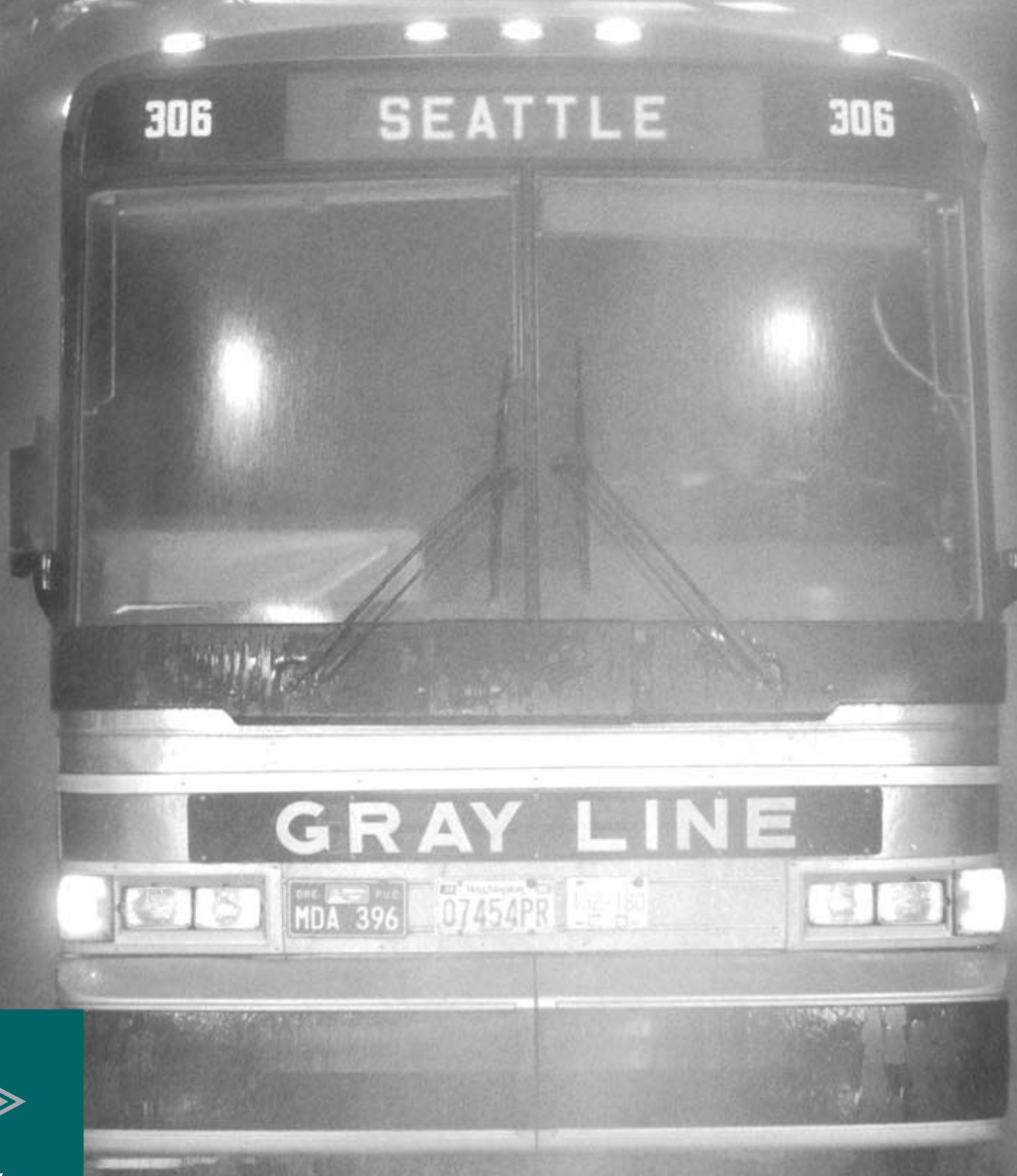
participate and purchase water-efficient technology. Incentives are designed to partially offset costs of upgrading more efficient equipment and appliances.

For example, nearly 4,100 WashWise washing machine rebates have been granted which is nearly 500% of the original program goal.

- **Education:** The backbone of our region's conservation strategy is public information and education programs. In a variety of ways, customers learn why and how they should conserve and about the conservation programs available to them. Recent market research shows a dramatic increase in commitment to conservation. Conservation programs experience strong support. 94% of customers believe it is important for households to conserve water.



# O u r



*of Seattle  
recycles 92%  
of the water  
in its bus  
washing  
operations.*

# Programs

Conservation programs are customer driven and must be tailored to customer needs and motivations to be effective. Promotion of water efficient technologies and conservation beliefs and behaviors is supported by a framework of public information, education, marketing and market transformation activities. Seattle Public Utilities and the water Purveyor Partners work closely together in conservation program planning, implementation and monitoring. Programs address domestic, landscape, educational and commercial water use.



program's end in 1995, the Home Water Savers Program had saved close to 6 million gallons per day, making this program the most successful and cost-effective regional conservation program ever implemented in the United States.

For those in apartments and condominiums, the program provided free installation of showerheads, aerators and water-saving toilet devices. In addition, free toilet repair was provided by licensed plumbers. Over 2,112 buildings participated with 65,702 units resulting in one million gallons per day in water savings. Redmond, Woodinville, Northshore and Mercer Island are now performing water audits to increase home savings.

**! The Home Water Savers Program received the AWWA award for Special Achievement in Indoor Water Conservation by a Public Agency in 1994.**

## Domestic:

Seattle Public Utilities and Purveyor Partners offer conservation programs designed to make conserving at home an easy and efficient way to reduce the cost of rising utility bills.

- **Home Water Savers Program** was the largest and most unique showerhead distribution program in the country—over 330,000 direct and wholesale residential customers received showerhead kits door to door. By the

- **WashWise** promotes the purchase of resource efficient washing machines. These machines will save as much water in a year as an average person drinks in a lifetime. Originally designed as a retailer instant discount off the purchase price of new resource efficient front load washing machines, WashWise has evolved into a mail-in cash rebate. Over 3,400 customers in our region have purchased resource efficient clothes washers after only one year of the incentive program.

**! WashWise received The Electric Power Research Institute (EPRI) Innovators Award in 1998.**

*The Seattle  
area receives  
less rainfall  
during July  
and August  
than Tucson,  
Arizona.*



# Landscape:

Landscape programs support activities that help achieve beautiful landscapes with minimal water use.

🏆 Seattle Public Utilities received an Appreciation Award from the Northwest Flower & Garden Show in 1989.

- **Waterwise Gardening**- Waterwise gardening practices help save water, time and money, while growing healthier plants that will be more resistant to pests and disease. Through this program a variety of learning tools are made available to the public including a series of brochures, annual seminars, demonstration gardens and a video. Throughout our region, 138 Waterwise seminars have been offered to the public, directly educating over 3,600 customers.



🏆 Bellevue's Waterwise Garden at the Bellevue Botanical Garden received the 1995 AWWA Water Conservation Award.

- **Soundscape Lawn & Garden Demonstration** is a one-half acre lawn and garden research site at the University of Washington's Center for Urban Horticulture, demonstrating "earth-friendly" lawn and garden practices for the Pacific Northwest. One project objective is to compare the performance of lawn plots planted with four different soil

preparations and watered according to two different watering regimes. Brochures and fact sheets are available to visitors at the site's interpretive center.

🏆 Soundscape Lawn & Garden Demonstration received the 1997 AWWA Water Conservation Award.

## Education:

Public information and education programs are strong components of an effective conservation program. These programs help generate awareness of the effects specific actions can have.

- **Schools-** School outreach programs are one of the foundations of water conservation programs, appealing to young people to increase the awareness of local water resources and to encourage water conservation practices. For example, several utilities support on-site elementary and middle school water conservation demonstration gardens. Seattle Public Utilities and Purveyor Partners will continue to offer school districts throughout King County a variety of services and programs including school presentations, curriculum development, water system facilities tours, teacher training seminars and classroom resource materials.

Since 1994, Purveyor Partners have worked with Puget Sound Energy to bring middle and high school students an integrated resource conservation program called In Concert with the Environment (ICE). Participants investigate their home resource use, discover how it affects the environment and learn what they can do to use resources more efficiently. Now, 27 agencies throughout the region sponsor the ICE program.

🏆 The ICE partners received a Special Recognition Award from the US Department of Energy in 1996.

🏆 "Water: Too Precious to Waste" Campaign received the 1994 American Water Works Association (AWWA) Honorable Mention.

🏆 In 1995, Seattle Public Utilities received the Telly Award for Outstanding Cable Television Advertisement for Water Conservation Toilet Replacement Public Service Announcement (PSA).

🏆 The "Seattle Water: Toilet Replacement" PSA spot received the 1994 National Association for Television Arts and Sciences Award (Emmy).

🏆 The "Real Water Expert" Public Service Announcement received the 1995 Soundie from the Puget Sound Radio Broadcasting Association.

🏆 In 1996, Seattle Public Utilities received the Natural Resources Defense Council (NRDC) Silver International ECO-Award for Conservation Public Service Announcements.

🏆 The "Weeding Out Waste Program" received the 1997 American Water Works Association (AWWA) Award for Special Achievement in Primary Education.

- **Conservation Public Information Programs-** Regional mass communication and marketing programs targeting a range of audiences provide critical information on the "why" and "how" of water conservation. Designed to educate residents on the importance and benefits of conservation and to provide resources on how to make changes, our nationally acclaimed efforts use a variety of media strategies including TV and radio advertising, direct marketing techniques, print marketing, public relations and community events. Some noteworthy examples include Summer Water Conservation Campaigns, the Multi-family Residential Promotion, and the Natural Lawn Care Program.

• **Natural Lawn Care Program-** Through TV and radio public service announcements and advertising, media events, brochures, training and community outreach volunteers, this program educates people on the impacts of their lawn care practices and teaches them how to grow healthy, environmentally friendly lawns. While the program emphasizes outdoor water conservation during the summer, it is an example of a successful comprehensive approach to integrating solid waste, water conservation and surface water issues into one program.

• **Conservation Website-** Seattle Public Utilities has one of the most complete resource conservation websites in the country with detailed information on nearly all conservation programs. Overall the site has more than 200 pages of information updated on a regular basis. The site at [www.ci.seattle.wa.us/util/](http://www.ci.seattle.wa.us/util/) receives between 500-1000 hits per month from around the world.

Work is also underway on a regional water education page for educators as an addendum to the resource



*Chateau Ste. Michelle winery in Woodinville practices water conservation daily.*

conservation home page. In addition to links to watershed, water quality and conservation information, the page will feature teacher and children activity segments. Teachers will have access to the latest in curriculum, workshop and field trip information, providing students with fun activities related to school project topics.

## Commercial:

Businesses, too, can have a dramatic impact on making conservation efforts work! From process cooling to recycling programs, businesses can provide substantial savings.

• **Water Smart Technology-** Through partnerships with local businesses, technical and financial assistance is offered for installation of water conservation technologies. More than 150 businesses have participated in the program, leading to one million gallons of water saved every day!

Four projects have been recognized through awards from the Pacific Northwest Section of AWWA for outstanding water conservation: Overlake Medical Center, Pacific Coca Cola, Medical Dental Building, and Pike Place Market Preservation and Development Association.

Cascade Designs received the 1996 AWB Environmental Excellence Award for Water Conservation from the Association of Washington Business.

By participating in the Water Smart Technology program, National Marine Fisheries Services is saving enough water every day with their water recycling system to serve almost 2,000 single family homes. National Marine Fisheries Water Recycling System won a federal Department of Energy award in 1996.

Chateau Ste. Michelle received the 1993 AWWA award for Special Achievement in the private sector for a water conservation project.

• **Commercial Toilet Rebates-** Since 1995, the program has offered substantial cash rebates for replacing older, inefficient toilets and urinals with low-consumption fixtures in commercial businesses or buildings. By the end of 1997, nearly 10,000 fixtures had been replaced by 600 commercial businesses or buildings within the regional service territory. The result has been a water savings of 0.8 million gallons each day.

• **Water Efficient Irrigation-** As an extension of Water Smart Technology, this program offers irrigation system assessments and audits at no cost as well as detailed evaluations of irrigation efficiency. Qualifying customers can receive financial incentives for upgrades of existing or planned irrigation systems. Several irrigation industry training classes are co-sponsored with the Irrigation Association (IA), an organization aimed at improving irrigation industry standards. Water Efficient Irrigation improvements have saved nearly three million gallons of water each year, or the amount of water used by 475 average households annually.

• **Water Reuse-** Recycled or reclaimed water is wastewater that has been treated to very high standards. While it cannot be used directly for drinking, highly treated wastewater can be used safely for irrigation and industrial processing and for supplementing ground and surface water supplies. The West Point Treatment Plant produces more than 500,000 gallons each day of useable recycled water, equivalent to the amount of water used by 2,000 average households per day.

AWWA Water Reuse Committee (with Seattle Public Utilities participation) received the Pacific Northwest Pollution Control Association 1996 President's Appreciation Award.

*Irrigation  
audits  
help save  
water by  
improving  
system  
efficiency.*



## Looking Ahead - Our Future Challenge

We can take great pride in our conservation accomplishments to date. However, much more can and should be done. The Seattle Public Utilities 1998 Conservation Potential Assessment looks at new ways of saving without creating customer hardship or sacrifice. In fact, so much potential exists that a one percent reduction in water use per person is achievable for the region each year during the next decade. Seattle and its water Purveyor Partners are preparing a new and expanded *1% Conservation Initiative* that will open up this untapped resource.

With the dedication of customers to conservation, we can preserve our resources for future generations.



## A c k n o w l e d g e m e n t s :

Seattle Public Utilities  
**Diana Gale, Director**  
**Scott Haskins, Resource Management  
Branch Executive**  
**Sean McDonald, Community Services  
Division Director**

Purveyor Committee  
**Ron Sheadel, Chair**  
**Bruce Weiss, Conservation  
Committee Chair**

Purveyor Marketing  
Subcommittee Staff  
**Glenn Boettcher, Mike Brent, Patricia  
Burgess, Deborah Rannfeldt, Barbara  
Sullivan, Marci Oda**

SPU Resource  
Conservation Staff  
**Matt Chadsey, Michael Davis, Al  
Dietemann, Richard Gustav, Suzan Hill,  
Shelley Lawson, Nota Lucas, David  
MacDonald, Phil Paschke, Preeti Shridhar,  
Annette Sommer, Carl Woestwin**

SPU Environmental  
Partnerships Staff  
**Mike Mercer**

SPU Resource Planning Staff  
**Tim Skeel, Jenny Bagby**

SPU Finance Staff  
**Jerry Allen, Bruce Flory**

SPU Strategic Policy Staff  
**Ray Hoffman**

SPU Communications Staff  
**Jane Dittmar**  
**Ron Harris-White**  
**D'Anne Mount**

Site Locations  
**Gray Line of Seattle, Seattle, WA**  
**Andy's Coin-op, Burien, WA**  
**Chateau Ste. Michelle Winery, Woodinville, WA**  
**Wiseman's Appliance, Seattle, WA**  
**Soundscape Lawn & Garden Demonstration, Seattle, WA**  
**Bellevue Botanical Garden, Bellevue, WA**

Graphic Design  
**Catherine Rivera**

Photography  
**Peter DeLory**

For more information, please call (206) 684-5879 or your local  
water utility. Visit our website at <http://www.ci.seattle.wa.us/util/>

This material can be made available to accommodate people with disabilities and those who need  
language translation assistance. Call Seattle Public Utilities at (206) 684-5900 or the TDD  
telephone number (206) 233-7241.

## References

1. Seattle Public Utilities website, [www.ci.seattle.wa.us/seattle/util](http://www.ci.seattle.wa.us/seattle/util)
2. Seattle Public Utilities Resource Conservation website, <http://www.ci.seattle.wa.us/util/rescons/conserves.htm>
3. 1996 Long Range Regional Water Conservation Plan
4. Seattle Public Utilities Water Conservation Potential Assessment Report, May 1998
5. Seattle Water 1994 Home Water Use Survey Final Report
6. Seattle Public Utilities 1998 Summer Bill Insert

*Customers*

*can use resource-  
efficient washing  
machines at*

*Andy's  
in Burien.*



*With the dedication of customers to conservation, we can  
preserve our resources for future generations.*

